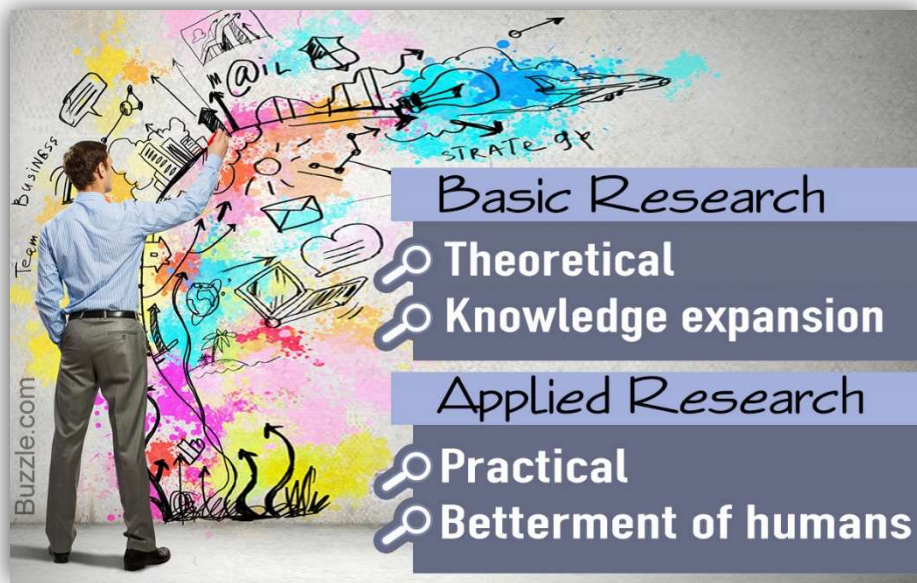




CONCEPT PAPER

ESTABLISHING OF AN APPLIED OPERATIONAL RESEARCH INSTITUTE



June 18th, 2019

Submitted By:

All Hazards Consortium 501(C)(3)
47 E. South Street, Suite 201 | Frederick, MD 21701

Building the Next Generation Public/Private Information Sharing





Concept – Applied Operational Research Institute

Purpose

The purpose of this document is to provide an overview of the establishment of an Applied Operational Research Institute by the All Hazards Consortium for the purpose of aligning and expediting future research investments in government or industry to the real world operational environment in the U.S. in support of reducing risk to and strengthening the resilience of the nation's critical infrastructure.

Background

Since 2010 the AHC has been working with multiple states to support their engagement with private sector critical infrastructure owners and operators in the U.S. to support disaster related preparedness, response, recovery and resilience.

These efforts, funded with government catastrophic planning grant funds from FEMA and private sector support have created a highly recognized and successful “system” that enables operations professionals in state government and industry to address operational problems together in a safe trusted information sharing framework managed by the private sector but supported jointly with government.

This framework, referred to as the SISE (Sensitive Information Sharing Environment), has matured over the years into a community of over 15,000+ stakeholders, multiple work groups and committees, and over 80+ information products that address specific operational issues across multiple sectors including electric, fuel, transportation, communications, retail, finance, health, water, and food.

Planning

The SISE provides the underlying legal framework, trusted by the private sector, that supports the planning and operational information sharing with vetted state, local, and federal government operations professionals

During “blue-sky” days, the SISE leverages its trusted community to solve operational problems by creating and testing solutions created from within the SISE committees and from 3rd party partners. Each disaster creates new challenges to address and new opportunities to test and create new solutions.

Operations

During “black-sky” days, the SISE staff and partners work together to provide operational support services between states and the private sector during certain regional disasters and incidents to improve operational communications and coordination across multiple states and regions based on the uniqueness of each disaster.

Identity Management

In 2015, DHS Science and Technology awarded a grant to the AHC to conduct a pilot project to test sensitive information sharing by using the PIV-I (Personal Identity Verification – Interoperable) credential. This pilot project created a working group (now called the SISE Working Group (Sensitive Information Sharing Environment), policies and processes, a PIV-I technology



portal, and technologies that combined supported the identity verification and data access processes. This project provided the foundation for the future SISE network.

DHS NIPP Security & Resilience Challenge Program

In 2016, DHS awarded the AHC a contract for \$300,000 under the NIPP Security and Resilience Challenge Program which sustained the SISE working group, integrated a Regional Common Operating Picture Dashboard tool developed by NASA, created a simpler user identity vetting process along, and additional legal agreements for users and data providers.

DHS also awarded the AHC subsequent contracts in 2017 and 2018 to further expand SISE the working group into other sectors, formalize the use case development methodology, develop templates and tools, develop additional used cases across multiple sectors, and develop a long-term sustainment plan with the private sector.

DHS Long-Term Agreement w/AHC

In late 2018, DHS decided to form a direct contractual relationship with the AHC, continue the development of the SISE, and continue to integrate the SISE into the DHS NICC framework and products.

In 2019, DHS decided to position the AHC underneath several of their national labs which provides a faster method of contracting and an easier path to funding over the long term.

To date, the AHC has met with Idaho National Labs (INL) (where Cherrie Black works now) and CNA to discuss partnering agreements working with DHS. The nature of these agreements will be a master services agreement with subsequent task orders to address individual projects.

Research Commercialization

DHS sees the AHC as an important partner to assist with the communications, marketing, and commercialization of technology as they have been investing in for years.

The AHC is unique approach of building a trusted community to solve problems first and then using these communities to test, evaluate, and operationalize research has proven to be a far more cost effective and if fission approach to supporting research and commercialization.

This community building approach replaces the old method of first building the solution and then trying to find the markets that have the problem the solution addresses.

By getting the operations community involved in the research upfront in the early stages of the requirements gathering and design work, the research ultimately will be shaped by the very community that will ultimately buy it. This principle is in effect today and many new areas of the venture capital market and is proven to be faster and more effective.

The research community is well aware of the research “valley of death”. The valley of death describes the gap that exist between researchers and the marketplace of buyers of technologies and solutions.

Researchers and product development communities speak of features, technologies, standards, and easy user interfaces well the marketplace asks what problems will this solve for me? What results will I get? Why should I believe you? Who is tested it already? What will it cost? How soon will I see results?

As is often the case, research community speaks in one language while the market place speaks in another. This valley of death cannot be bridged without a facilitated process and a translator of the languages.



This is the role of the AHC, to leverage its operational relationships and communities that build the bridge between researchers and the operational marketplace.

The Applied Operational Research Institute

The establishment of an Applied Operational Research Institute by the AHC will provide the formal framework to support the ongoing creation of multiple operational communities of states and industry and the staff needed to support the ongoing use case development, solution development, and alignment of research with the appropriate use cases and communities that will expedite the transition of the research into the marketplace.

The benefits:

- Provide more operations focus to research, development, testing, and evaluation processes
- Promotion of applied operational research philosophies and methodologies to academia, government, and industry
- Expedite solutions development
- Align research with real world operational problems and marketplaces
- Enhanced information sharing and data analytics for operational purposes
- Enhanced decision-making during disasters
- Serve as financial mechanism to attract private sector investment